UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

47069   7590   03/13/2009

KONRAD RAYNES & VICTOR, LLP
ATTN: IBM54
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

EXAMINER
WEI, ZHENG

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 03/13/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,970	12/09/2003	Allen K. Hawley	SVL920030037US1	6431

TITLE OF INVENTION: USER CONFIGURABLE LANGUAGE INDEPENDENT CODE ASSIST ENGINE METHOD, SYSTEM, ARTICLE OF MANUFACTURE, AND COMPUTER PROGRAM PRODUCT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	06/15/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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BEVERLY HILLS, CA 90212

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

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EXAMINER	ART UNIT	CLASS-SUBCLASS
WEI, ZHENG	2192	717-113000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
WEI, ZHENG

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 723 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 723 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)
Notice of Allowability	10/731,970	HAWLEY ET AL.
	Examiner	Art Unit	
	ZHENG WEI	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to _02/27/2009_.

2. ☒ The allowed claim(s) is/are _7-12,20 and 22-34 (re-numbered as 1-20)_.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192

DETAILED ACTION

1.   This office action is in response to the amendment filed on 02/27/2009.

2.   Claims 7-11 have been amended.

3.   Claims 27-34 have been added.

4.   Claims 7-12, 20 and 22-34 remain pending and now being allowed (re-numbered

as 1-20).

EXAMINER'S AMENDMENT

5.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as

provided by 37 CFR 1.312. To ensure consideration of such an amendment, it

MUST be submitted no later than the payment of the issue fee.

6.   Authorization for this examiner's amendment was given by Mr. David W. Victor

(Reg. No. 39,867) on February 27, 2009. A proposed amendment has been

received and adopted by the Examiner, wherein claims 7-11 have been amended

and claims 27-34 have been added. *See* pages 5-10 attached hereto.

Allowable Subject Matter

7.   As Applicants point out under section pre-appeal brief request for review

arguments, forth paragraph of page 1, the closest cited prior art of <u>Shulman</u> (U.S.

Patent No. 6,026,233) does not disclose generating proposals based on previous

tokens if the token at the current position does not match a syntax statement as recited in independent claim 7 and in as such manners as in each of independent claims 27 (article version) and 31 (system version) with the same limitations, thus each of the dependent claims are allowable for at least the same reasons.

8.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059 and Fax number is (571) 270-02059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application or

proceeding should be directed to the TC 2100 Group receptionist whose telephone

number is 571- 272-1000.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Z. W./   /Tuan Q. Dam/
Examiner, Art Unit 2192   Supervisory Patent Examiner, Art Unit 2192

7.   (Currently Amended) A method of providing a code assist function which suggests candidates responsive to a parsing of a partial program instruction statement, said method comprising:

parsing a partial program instruction statement into tokens, wherein the tokens are identified and divided into keywords and variables according to a computer language in which the partial program instruction statement is written;

determining whether the tokens match ~~one of a plurality of~~ syntax ~~statements~~ statement tokens in a syntax library for [[a]] the computer language by comparing the keywords against keywords of the syntax statement tokens or comparing the variables against symbols of the syntax statement tokens ~~in which the partial program instruction statement is written~~;

moving a cursor positioned on one of the tokens for which the match is determined to a following token in response to determining that the token matches one of the syntax ~~statements~~ statement tokens in the syntax library;

in response to determining that the token on which the cursor is positioned does not match one of the syntax ~~statements~~ statement tokens generating proposals from the cursor position based on previous tokens in the partial program instruction that matched syntax ~~statements~~ statement tokens in the syntax library;

providing proposals to append to the partial program instruction statement to a user responsive to the parsing of the partial program instruction statement.

8.   (Currently Amended) The method of claim 7 further comprising:

proposing [[an]] one of the identified ~~variable~~ variables as a proposal responsive to the previous token ~~a verb~~ of the partial program instruction statement, wherein the previous token is a verb.

9.   (Currently Amended)   The method of claim 7 further comprising:

proposing [[an]] one of the identified ~~variable~~ variables as a proposal responsive to a
variable type of the variable.

10.   (Currently Amended) The method of claim 7 further comprising:

proposing [[an]] one of the identified ~~variable~~ variables as a proposal responsive to the
previous token ~~a verb~~ of the partial program instruction statement, wherein the previous token is
a verb, or responsive to a variable type of the variable.

11.   (Currently Amended) The method of claim 7 further comprising:

proposing [[an]] one of the identified ~~variable~~ variables as a proposal responsive to a
portion of the program containing the partial program instruction statement.

27.   (New) An article of manufacture for use in a computer system for providing assistance to a programmer writing computer programming code, said assistance comprising suggested candidates responsive to a parsing of a partial program instruction statement, said article of manufacture comprising a computer-useable storage medium having a computer program embodied in said medium which causes the computer system to execute operations comprising:

parsing a partial program instruction statement into tokens, wherein the tokens are identified and divided into keywords and variables according to a computer language in which the partial program instruction statement is written;

determining whether the tokens match syntax statement tokens in a syntax library for the computer language by comparing the keywords against keywords of the syntax statement tokens or comparing the variables against symbols of the syntax statement tokens;

moving a cursor positioned on one of the tokens for which the match is determined to a following token in response to determining that the token matches one of the syntax statement tokens in the syntax library;

in response to determining that the token on which the cursor is positioned does not match one of the syntax statement tokens generating proposals from the cursor position based on previous tokens in the partial program instruction that matched syntax statement tokens in the syntax library;

providing proposals to append to the partial program instruction statement to a user responsive to the parsing of the partial program instruction statement.

28.   (New) The article of manufacture of claim 27, wherein the operations further comprise:

proposing one of the identified variables as a proposal responsive to the previous token a of the partial program instruction statement, wherein the previous token is a verb.

29.   (New)   The article of manufacture of claim 27, wherein the operations further comprise:

proposing one of the identified variables as a proposal responsive to a variable type of the variable.

30.   (New) The article of manufacture of claim 27, wherein the operations further comprise:

proposing one of the identified variables as a proposal responsive to the previous token of the partial program instruction statement, wherein the previous token is a verb, or responsive to a variable type of the variable.

31.   (New) A computer system for providing a code assist function which suggests candidates responsive to a parsing of a partial program instruction statement, said computer system comprising:

a processor;

a computer readable storage medium;

a code assist engine in the computer readable storage medium executed by the processor to perform operation comprising:

parsing a partial program instruction statement into tokens, wherein the tokens are identified and divided into keywords and variables according to a computer language in which the partial program instruction statement is written;

determining whether the tokens match syntax statement tokens in a syntax library for the computer language by comparing the keywords against keywords of the syntax statement tokens or comparing the variables against symbols of the syntax statement tokens;

moving a cursor positioned on one of the tokens for which the match is determined to a following token in response to determining that the token matches one of the syntax statement tokens in the syntax library;

in response to determining that the token on which the cursor is positioned does not match one of the syntax statement tokens generating proposals from the cursor position based on previous tokens in the partial program instruction that matched syntax statement tokens in the syntax library;

providing proposals to append to the partial program instruction statement to a user responsive to the parsing of the partial program instruction statement.

32.   (New) The computer system of claim 31, wherein the operations further comprise: proposing one of the identified variables as a proposal responsive to the previous token a of the partial program instruction statement, wherein the previous token is a verb.

33.   (New)   The computer system of claim 31, wherein the operations further comprise:

proposing one of the identified variables as a proposal responsive to a variable type of the variable.

34.   (New)   The computer system of claim 31, wherein the operations further comprise:

proposing one of the identified variables as a proposal responsive to the previous token of the partial program instruction statement, wherein the previous token is a verb, or responsive to a variable type of the variable.